

Amendments to the Drawings:

Please replace the original drawing sheets 2, 3 and 4, and the previously submitted replacement drawing sheets 2, 3 and 4 with the attached new replacement sheets 2, 3, and 4, wherein Figs. 2c, 4c and 6b, respectively, have been amended to remove shading.

REMARKS

The present Office Action set forth a number of objections and rejections to the pending application and claims. By the present Amendment, applicant has endeavoured to address each of the points set forth in the Office Action and place the application and claims in condition for allowance.

Turning, sequentially, to the issues raised by the Office Action, and in response to the continued objection to shaded figures 2c, 4c, and 6b, applicant has herewith submitted a set of replacement drawings.

The Office Action, in paragraphs 10 to 16, identified a number of perceived informalities with the claims. Applicant has amended the claims to address the issues raised in the Office Action. Additionally, applicant has also amended the claims to redirect them to hollow anatomical structures compared to just varicose veins.

Concerning the "claim rejections" from paragraph 17 onwards, independent claims 39, 52 and 72 have been amended to include the feature that the radiation emitting portion is a solid. Applicant submits that this feature is fully supported by the original specification and drawings.

The Office Action has rejected the claims as either anticipated by Rosen et al. (5,129,396) ("Rosen") or obvious in view of Rosen in combination with secondary cited references. Applicant respectfully submits the claims are neither anticipated by Rosen nor obvious in view of Rosen alone or in combination with the cited references. First, Rosen does not use microwaves to treat the surrounding tissue. Rosen discloses a catheter including a microwave transmission line 12 terminating at its distal end 20 in an antenna 15. The antenna 15 is surrounded by a balloon 23. During angioplasty, the catheter is introduced into a blood vessel, and the distal end 20 with the balloon 23 and the antenna 15 is manipulated to a point adjacent a plaque in the blood vessel. Microwave power is applied to the proximal end of the catheter and

flows to the antenna 15, which radiates the energy to the plaque for heating and thereby softening the plaque. The balloon is expanded against the softened plaque to thereby expand the lumen of the blood vessel. The inflation of the balloon is determined by measuring microwave reflections/impedance. The microwaves also heat a partly metallised wall of the balloon to heat adjacent tissue both conductively and by microwave absorption.

The radiation emitting portion of the present invention is not a balloon but is a solid so that the varicose vein can shrink down onto it during treatment. Applicant appreciates the Examiner's notes to applicant on page 6 of the Office Action. Applicant, however, notes that all materials including the medium of the balloon have dielectric properties.

The applicator of the present invention is solid and includes a tapered tip. The applicator emits radiation radially from both its cylindrical mid-section and the tapered tip. Initially, the tapered tip of the solid applicator provides the advantage that it allows the applicator to be pushed along the hollow anatomical structure, e.g. vein, the tapering portion serving to gently widen the unattached parts of the vein to allow the applicator to pass there through. Once the area to be treated has been passed, microwave energy is applied to the applicator via the cable and the cable is pulled slowly out of the vein at a controlled rate, with the tapered tip of the solid applicator forming the trailing edge. The vein initially constricts onto the wider cylindrical leading mid-section of the solid applicator under the application of microwaves. However, since the radiation is also emitted from the tapering tip portion, the vein further constricts onto the tapering portion under the application of microwaves, with the cross-sectional area of the tip getting less and less the more the applicator is pulled passed a particular point to be treated. In this manner the vein can advantageously be fully closed under the application of microwaves.

Rosen does not include a solid conically tapering tip and thus it would be difficult to insert the device of Rosen through a constricted hollow anatomical structure such as a vein. Figs. 1a and 1b of Rosen show the balloon in various stages of inflation which are representative only and dependant on the surrounding tissue shape. Hence, there is no guarantee that the balloon will reliably inflate in such a way as to provide a shape suitable for closing/occluding the vein as the Examiner suggests. Indeed, the device of Rosen is in fact for widening a vein.

In view of the foregoing deficiencies in Rosen, Rosen neither anticipates the claims nor are the claims obvious in view of Rosen alone or in combination with the other cited references. Accordingly, applicant respectfully requests the issuance of a timely Notice of Allowance.

The Commissioner is authorized to charge any fees or deficiencies or credit any overpayments to Eugene M. Cummings, P.C., Deposit Account No. 50-4199 with reference to attorney docket number (0934-0048).

Respectfully submitted,

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